

G. N. BARCUS.
 SPRING HINGE.
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1,051,538.

Patented Jan. 28, 1913.

Fig. 1.

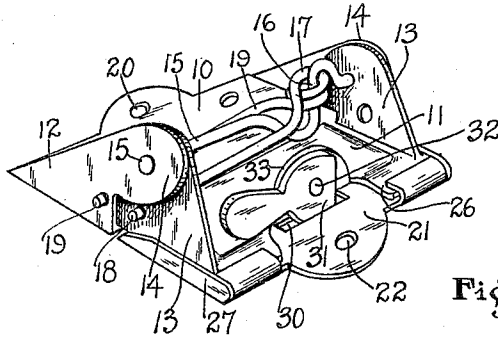


Fig. 3.

Fig. 2.

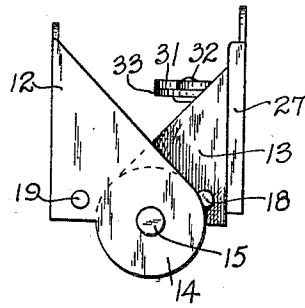
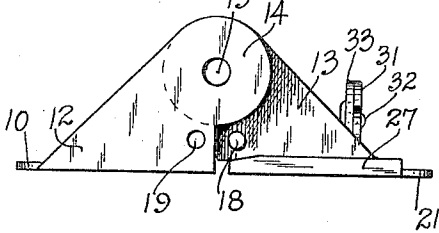


Fig. 5.

Fig. 4.

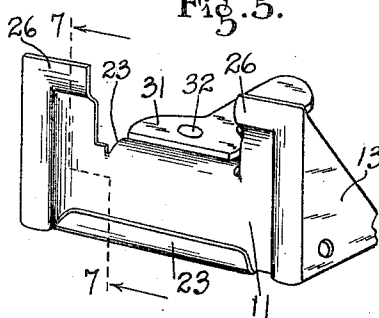
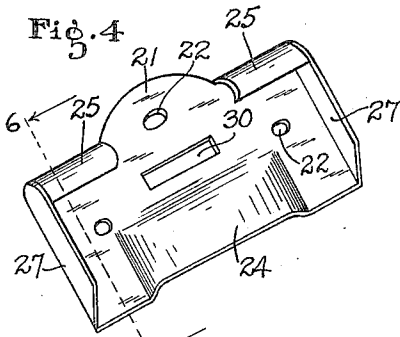


Fig. 6.

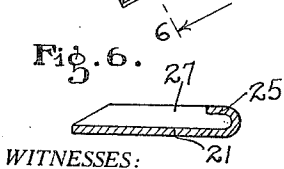
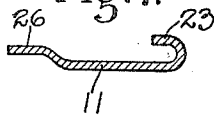


Fig. 7.



WITNESSES:

A. H. Colquhoun
O. M. McLaughlin

INVENTOR.
 George N. Barcus.

BY
V. H. Wood
 ATTORNEY.

UNITED STATES PATENT OFFICE.

GEORGE N. BARCUS, OF WABASH, INDIANA.

SPRING-HINGE.

1,051,538.

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To all whom it may concern:

Be it known that I, GEORGE N. BARCUS, a citizen of the United States, and a resident of Wabash, county of Wabash, and State of Indiana, have invented a certain useful Spring-Hinge; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of this invention is to provide an improved spring hinge construction which is suitable particularly for removable doors and the like so as to render the same readily removable and as readily put in place.

One feature of this invention consists in a spring construction between the two hinged members whereby a simple and very strong hinge is procured, the ends of the spring being connected with the end plates of the hinge members so that the ends of the spring, when the hinged members are folded together, will pass the pivot center between the two hinge members and thus the spring will hold the hinge members in their folded position. This enables a door, for instance, to be held open as well as closed by the spring.

Another feature of the invention consists in the means for securing one of the hinge members removably to the door, casing or other object so as to obtain a very secure mounting of the hinge, the hinge member being secured at both its inner and outer edges.

Another feature of the invention consists in the means for detachably locking the hinge to the plate of the door or other object. To that end the hinge member is fastened flat on a plate, the central portion of the plate remaining uncovered by the hinge member and said uncovered portion having an opening through it and the hinge member having a locking member pivoted thereto in position to enter the opening when operated. This locking member also cooperates with the means for holding the hinged member to the plate, as will hereafter appear.

The nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings, Figure 1 is a perspective view of the inside of the hinge and plate in unfolded and locked position. Fig. 2 is an end elevation thereof. Fig. 3 is an end ele-

vation showing the same folded. Fig. 4 is a perspective view of the plate. Fig. 5 is a perspective view of the hinge member which is removably secured to the plate. Fig. 6 is a section on the line 6—6 of Fig. 4. Fig. 7 is a section on the line 7—7 of Fig. 5.

The hinge portion of the structure consists of the hinge members 10 and 11 having triangular shaped ends 12 and 13, respectively, with overlapping ears 14 from each end, and through said overlapping ears a pivot pin 15 extends. The pivot 15 is peculiarly formed, being bent between its ends into an ogee shape, that is, being doubly bent so as to have a portion 16 intermediate the two bends thereof which extends substantially at a right angle to the main portion of the pivot. The spring 17 is coiled about the part 16 of the pivot and the two arms 18 and 19 of the spring overlap each other when they are coiled, and then extend longitudinally of the pivot 15 and their ends project through the corresponding end plates 12 and 13 on the hinge members. The ends of the spring pass through the two end plates at about the same points with relation to each other and the pivot 15. Hence, as shown in Fig. 1, when the hinge is unfolded, the two ends of the spring are on the same side of the pivot. However, when the members of the hinge are being folded to the position shown in Fig. 3, the ends 12 and 13 thereof carry the ends of the spring arm 19 around and past the pivot and thus will tend to hold the members in their folded condition. This spring construction enables very strong spring wire to be used and affords a very simple and durable spring construction.

The hinge member 10 is provided with screw holes 20 whereby it may be secured in place. The other hinge member 11 is secured to a metal plate 21 and said metal plate 21 has screw holes 22 whereby it is screwed to the door or other object.

The means for removably securing the hinge member 11 to the plate 21 will now be explained.

As shown in Fig. 5, the hinge member 11 has on its under side a reversely turned flange or hook 23 adapted to pass beneath and engage the slightly elevated portion 24 at the inner edge of the plate 21, as indicated in Fig. 4, and thus the two inner edges of said hinge member and plate are

held together. The outer edge of the plate 21 is also provided with an outwardly and reversely curved flange 25 adapted to receive and overlap the rearwardly bent portion 26 of the outer edges of the hinge member 11 and thus the outer edges of the hinge member 11 and plate 21 are held together after they are put in place. The plate 21 has also outwardly extending end flanges 27 which extend by the ends of the hinge member 11 and prevent longitudinal adjustment of the two parts.

The central and outer portion of the plate 21 is not covered by the hinge member 11 when the parts are put together and the uncovered portion of the plate 21 has an opening 30 in it about midway of the ends of the plate in position to receive a cam-like member 31, when operated, as shown in Fig. 1. Said locking lever 31 is pivoted on a pin 32 extending through an upturned ear 33 about midway between the ends of the hinge member 11. When the locking lever is turned to a vertical position, the parts are unlocked.

While there is herein shown and described a construction in which the outer edges of the member 11 are held by a return curved portion on the outer edge of the stationary or fixed plate 21 and the inner edges are held together by a hooked portion on the hinge plate projecting behind the inner edge of the fixed plate, it is not desired to limit my invention to this particular invention as this construction may be varied in many ways without departing from the spirit of my invention.

I claim as my invention:

1. A pair of hinge members having end portions extending substantially at right

angles therefrom, a pivot rod extending through said end portions at both ends of the hinge member and having an intermediate portion extending transversely of the main portion of the pivot rod, and a spring coiled around said transverse portion of the pivot rod with the two arms thereof extending through the respective end portions at one end of the hinge members.

2. A pair of hinge members, a plate adapted to be secured to a door casing or the like, said plate having outwardly bent portions adjacent its vertical edges, rearwardly bent portions adjacent the vertical edges of one of said hinge members adapted to horizontally engage said bent portions on said plate upon opposite faces of said plate, and means for removably locking said hinge member on said plate.

3. A pair of hinge members, a plate adapted to be secured to a door casing or the like, said plate having an outwardly bent portion adjacent its inner edge and the outer edge bent and returned, a lip upon the rear side of the inner edge of one of said hinge members adapted to slidably engage the outward bend in said plate, the outer edge of said hinge member adapted to be slidably engaged by the return bend in said plate, and a lever on one of said hinge members for removably locking said hinge member on said plate.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

GEORGE N. BARCUS.

Witnesses:

JAMES W. STEWART,
WARREN MALLISON.